

## REMARKS

Claims 29-52, which are directed toward non-elected inventions, are canceled without prejudice to Applicants' right to pursue the subject matter of the canceled claims in one or more divisional and continuation applications. Upon entry of the present Amendment, claims 1-28 and 53-60 will be pending in the instant application.

In the specification, at pages 6, 33, and 50, structures **(III)**, **(IV)**, and the structure corresponding to **R<sup>3</sup>**, are revised as indicated above at pages 2-3, above. In each instance, the placement of a brace {} within the depiction of the chemical structure has been revised to correct an obvious error of a typographical nature, as would be apparent to those of ordinary skill in the art. That is, each of the errors corrected would be apparent to those of ordinary skill in the art in view of *e.g.* the structure (Formula **I**) of the functionalizing reagent at page 22 and synthetic Scheme III at page 44 of the specification as filed. That is, the product of the condensation of two molecules according to Formula **I** would yield a molecule having the inter-unit bond depicted in Scheme III and as depicted in amended structures according to Formula **III**, Formula **IV** and **R<sup>3</sup>**, and would not result in a - O - O - peroxide bond as noted by the Examiner.

Claims 1, 54, and 56 are amended to correct an obvious error of a typographical nature, *i.e.* the placement of a brace {} in the depiction of molecules according to Formula **III**, **IV**, and **R<sup>3</sup>**, consistent with the changes to pages 6, 33, and 50 noted above.

Claims 54 and 55 have also been amended to more particularly point out and distinctly claim the subject matter the inventors regard as their invention. More specifically, each claim, directed toward a kit, has been amended to recite other materials that can be included in such kits. Support for these amendments is found in Section 4.7 (at page 72, line 21 to page 73, line 6) of the specification as filed.

Claim 1 has also been amended to recite "wherein the mobility-modifying polymer comprises at least one phosphotriester linking group." Claim 1 has been amended to emphasize the meaning of the proviso of claim 1, as originally filed, *i.e.* that the mobility-modified sequence-specific nucleobase polymers of the invention comprise an uncharged phosphotriester linkage. Accordingly, this amendment does not further limit claim 1. Support for this amendment is found at page 26, line 22 to page 27, line 3 of the specification as filed. Claims 1, 5, 6, 54, and 56 have also been amended to recite that the OLIGO "comprises" a sequence-specific nucleobase polymer for clarity, particularly in view

of e.g. claim 18, which depends thereon. Support for this amendment is found at page 6, lines 4-5.

Similarly, claim 27 has been amended to more particularly point out and distinctly claim the subject matter applicants regard as their invention. Claim 28 has been amended to be consistent with the changes to claim 27, upon which claim 28 depends. Support for the amendments to claims 27 and 28 is found at page 7, lines 5-18 of the specification as filed.

No new matter is added by the amendments.

#### **Rejection Under 35 U.S.C. § 112, Second Paragraph**

For the reasons provided at page 2 of the Office Action, claims 1-28 and 54 are rejected as allegedly indefinite with respect to the depiction of molecules according to Formula III as recited in independent claims 1 and 54. More specifically, at page 2 of the Office Action it is alleged that “[c]laims 1 and 54 are vague and indefinite because in formula III if R3 is the of formula as shown in line 30 and X is oxygen the bond linking R3 in formula III will be and O-O bond which is unstable.”

Applicants submit that the rejection is moot in light of amended claims 1, 54, and 56. Accordingly, Applicants respectfully request that the rejection of claims 1-28, and 54, as indefinite under 35 U.S.C. § 112, second paragraph, be withdrawn.

#### **Rejection Under 35 U.S.C. § 102/103 Over the ‘705 Patent**

Claims 1-7, 11, 13-28 and 53-60, are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,470,705 to Grossman *et al.* (hereafter “the ‘705 patent”) or, in the alternative, under 35 U.S.C. § 103(a), allegedly as obvious over the ‘705 patent, either alone or in view of the information disclosed at page 39 of the 1988 Stratagene Catalogue (hereafter “the Stratagene Catalogue”), for the reasons provided in Sections 5, 7, 8, and 10 of the Office Action.

More specifically, at page 7, section 7, of the Office Action, the Examiner has alleged: (1) that “both the prior art and the instant application prepare and use composition which appeared to be identical,” (2) that the “[c]laims have added functions which the prior art has not analyzed for” and (3) that “these added characteristics are presumed to be inherent in the prior art composition.”

Applicants note that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” *Verdegall Bros. v. Union Oil of California* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1991). Moreover, an allegedly inherent limitation cannot be “established by probabilities or possibilities,” *i.e.* it must inevitably and necessarily follow from the teaching of the cited art. *Continental Can Company USA, Inc. v. Monsanto Company* 948 F.2d 1264, 1269 (Fed. Cir. 1991).

The ‘705 patent, whether taken alone or together with the Stratagene catalogue, does not teach each and every element of the claims. More specifically, neither the ‘705 nor the Stratagene catalogue teach or suggest the uncharged phosphotriester linkage recited in independent claims 1, 54, and 56, nor the reagent, which can be used to assemble a mobility-modifier having a phosphotriester linkage, that is recited in independent claims 53 and 55 of the instant application.

Moreover, the *Fitzgerald* case cited by the Examiner is inapposite because it was premised on the assumption that the claimed fastener was *the same* as that disclosed in a cited prior art reference. Thus, the fastener claimed in *Fitzgerald* was not rendered novel merely by reciting an undisclosed functional characteristic relating to crystallization shrinkage that was inherent in the prior fastener.

However, in the present case, the cited references entirely fail to teach the phosphotriester-containing structures of the present claims. Accordingly, the present claims cannot be considered anticipated.

Nor could the present claims have been obvious inasmuch as the cited references fail to teach or suggest the phosphotriester-containing structures of the present claims. Moreover, polymers of the presently claimed invention can exhibit notable advantages. For example, the data in Table 1 on page 75 of the instant specification demonstrate a greater than six-fold difference in mobility-reduction for a polymer of the invention having three phosphotriester linking groups as compared with a polymer having three phosphodiester linking groups. Such results are neither taught nor suggested by the cited references. Accordingly, withdrawal of the rejection is respectfully requested.

#### **Rejection Under 35 U.S.C. § 102(e) Over the ‘486 Patent**

Claims 1-7, 11, 13-28 and 53-60, are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,395,486 to Grossman *et al.* (hereafter “the ‘486 patent”) for the reasons provided in Section 6 of the Office Action.

More specifically, at page 7, section 7, of the Office Action, the Examiner has alleged: (1) that “both the prior art and the instant application prepare and use composition which appeared to be identical,” (2) that the “[c]laims have added functions which the prior art has not analyzed for” and (3) that “these added characteristics are presumed to be inherent in the prior art composition.”

The ‘486 patent, does not teach each and every element of the claims. More specifically, the ‘486 patent does not teach a mobility-modifier comprising the uncharged phosphotriester linkage recited in independent claims 1, 54, and 56, nor the reagent, which can be used to assemble a mobility-modifier having a phosphotriester linkage, that is recited in independent claims 53 and 55 of the instant application.

Accordingly, the present claims cannot be considered anticipated, and, therefore, withdrawal of the rejection is respectfully requested.

**Rejection Under 35 U.S.C. § 103(a) over U.S. Patent 6,395,486**

Present application Serial No. 09/836,704, which was filed April 16, 2001, and U.S. Patent No. 6,395,486, were commonly owned at the time the invention of application Serial No. 09/836,704 was made. More specifically, U.S. Patent No. 6,395,486 is assigned on its face to Applera Corporation, which is the parent, holding company of PE Corp (NY), the assignee of the present application.

Therefore, pursuant to 35 U.S.C. § 103(c), U.S. Patent No. 6,395,486 is disqualified as prior art and cannot be used to reject claims of the instant application under 35 U.S.C. § 103(a) (*see* MPEP 706.02(k) and (l)).

Accordingly, withdrawal of the rejection is respectfully requested.

**CONCLUSION**

Applicants believe that each ground of rejection of the present claims has been successfully overcome or obviated. Accordingly, applicants respectfully request the rejection of claims 1-28 and 54 under 35 U.S.C. § 112, second paragraph, and the rejection of claims 1-7, 11, 13-28, and 53-60, under 35 U.S.C. §§ 102(e) and 102(b), or in the alternative under 35 U.S.C. § 103(a), be withdrawn.

No fee is believed to be due for this submission other than the fee required for an extension of time for one month. However, should the Commissioner determine that a fee is due, please charge the required amount to Pennie & Edmonds LLP Deposit Account No. 16-1150.

Applicants submit that the entire application is now in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree with Applicants' position, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of the application.

Respectfully submitted,

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